

# Scientist Letter of Support for Nevada Assembly Bill 221

We, the undersigned scientists, are writing to show our support for [Nevada Assembly Bill 221](#), which would allow the Nevada Department of Wildlife to work to conserve monarchs, other butterflies, bumble bees and other important insect species.

The Nevada Department of Wildlife is vital for the conservation of the state's wildlife. Conservation actions by the Nevada Department of Wildlife can effectively recover vulnerable wildlife populations, circumventing the need to list species under the Endangered Species Act. Yet, Nevada Department of Wildlife does not currently have management authority over monarchs and other pollinators because these animals are not defined as "wildlife." From a biological perspective, wild insects are indeed wildlife; there is no scientific or biological reason to exclude them from wildlife management efforts. This bill would define "non-pest terrestrial invertebrate wildlife of greatest conservation need" as wildlife under state code which would allow the Nevada Department of Wildlife to work to conserve monarch butterflies and other essential pollinators.

## **Why this bill is important**

Invertebrates, including butterflies and bees, are at the heart of a healthy environment. Most flowering plants require pollination (Ollerton et al. 2011), usually by an insect, and those plants then produce many of the fruits, vegetables, nuts, and seeds that both humans and wildlife depend on. The vast majority of birds, bats and freshwater fish rely on invertebrates as food. Invertebrates clean our streams and rivers by filtering water, help clean up plant, animal, and human waste, and control pests. Losey and Vaughan (2006) found insects alone are worth more than \$57 billion (\$70 billion 2020 valuation) a year to the U.S. economy. This bill will categorize terrestrial invertebrates that are recognized as Species of Greatest Conservation Need by the Nevada Department of Wildlife as wildlife, allowing Nevada to both lead and engage in conservation efforts to protect and recover these animals.

## **Monarchs and other pollinators are in decline**

Studies from around the world are showing that insects are declining, and this puts many ecosystems and agricultural systems at risk. The United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services found that more than 40% of invertebrate pollinator species globally may face extinction in the coming decades (IPBES, 2016). Wagner et al. (2021) reported in the Proceedings of the National Academy of Sciences that where studied, insect abundance is declining on average 1% to 2% per year.

These declines are also being seen in the western US and in Nevada. The western population of monarchs has declined by over 90% (Pelton et al., 2019) and many other pollinators in Nevada, including the western bumble bee (Janousek et al. 2023), are also imperiled. A study in the journal *Science* by scientists at the University of Nevada Reno found that butterfly populations in Nevada and across the West are declining at a rate of 1.6% each year, which means that ***butterfly abundance is declining by approximately 25% every 20 years*** (Forister et al. 2021). This means fewer insects to pollinate, for birds and fish to eat and for all of the other services that they provide.

### **Proactive conservation can help these animals and maintain the services they provide**

If we hope to stem the losses of insect diversity and safeguard the services that insects provide, society must take steps at all levels to protect, restore and enhance habitat for these animals (Forister, Pelton & Black, 2019). Studies demonstrate that we can protect and recover populations of pollinators and other insects with a proactive conservation approach (Forister, Pelton & Black, 2019). Providing the Nevada Department of Wildlife with the authority to work to conserve monarchs, other butterflies, bumble bees and other important insects, as they do with mammals, birds, amphibians, and other wildlife, is the first step in ensuring that these animals do not become endangered and that society can retain the vital services that insects provide. Many scientists stand ready to help the agency if this bill passes.

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